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We Claim:

1. A purified polynucleotide or fragment thereof derived from a LS147 gene, wherein said polynucleotide is capable of selectively hybridizing to the nucleic acid of said LS147 gene and has at least 50% identity with a polynucleotide selected from the group consisting of (a) SEQUENCE ID NO 1, SEQUENCE ID NO 2, SEQUENCE ID NO 3, SEQUENCE ID NO 5, SEQUENCE ID NO 6, SEQUENCE ID NO 7, and complements thereof, and (b) fragments of SEQUENCE ID NO 1, SEQUENCE ID NO 2, SEQUENCE ID NO 10 3, and SEQUENCE ID NO 4.

2. The purified polynucleotide of claim 1, wherein said polynucleotide is produced by recombinant techniques.

15 3. The purified polynucleotide of claim 1, wherein said polynucleotide is produced by synthetic techniques.

20 4. The purified polynucleotide of claim 1, wherein said polynucleotide comprises a sequence encoding at least one LS147 epitope.

25 5. A recombinant expression system comprising a nucleic acid sequence that includes an open reading frame derived from LS147 operably linked to a control sequence compatible with a desired host, wherein said nucleic acid sequence has at least 50% identity with a sequence selected from the group consisting of SEQUENCE ID NOS 1-7, and fragments or complements thereof.

30 6. A cell transfected with the recombinant expression system of claim 5.

7. A LS147 polypeptide having at least 50% identity with a sequence selected from the group consisting of SEQUENCE ID NO 15, SEQUENCE ID NO 16, SEQUENCE ID NO 17, SEQUENCE ID NO 18, and fragments thereof.

35 8. The polypeptide of claim 7, wherein said polypeptide is produced by recombinant techniques.

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9. The polypeptide of claim 7, wherein said polypeptide is produced by synthetic techniques.

10. An antibody which specifically binds to at least one LS147 epitope, 5 wherein said LS147 epitope is derived from an amino acid sequence having at least 50% identity with a sequence selected from the group consisting of SEQUENCE ID NO 15, SEQUENCE ID NO 16, SEQUENCE ID NO 17, SEQUENCE ID NO 18, and fragments thereof.

~~10. An antibody which specifically binds to at least one LS147 epitope, 5 wherein said LS147 epitope is derived from an amino acid sequence having at least 50% identity with a sequence selected from the group consisting of SEQUENCE ID NO 15, SEQUENCE ID NO 16, SEQUENCE ID NO 17, and fragments thereof.~~

11. A cell transfected with a nucleic acid sequence encoding at least one LS147 epitope, wherein said nucleic acid sequence is selected from the group consisting of SEQUENCE ID NOS 1-7, and fragments or complements thereof. 15

12. A composition of matter comprising a LS147 polynucleotide or fragment thereof, wherein said polynucleotide has at least 50% identity with a polynucleotide selected from the group consisting of (a) SEQUENCE ID NO 1, SEQUENCE ID NO 2, SEQUENCE ID NO 3, SEQUENCE ID NO 5, SEQUENCE ID NO 6, SEQUENCE ID NO 7, and complements thereof, and (b) fragments of SEQUENCE ID NO 1, SEQUENCE ID NO 2, SEQUENCE ID NO 20 3, and SEQUENCE ID NO 4.

13. A composition of matter comprising a polypeptide containing at least one LS147 epitope, wherein said polypeptide has at least 50% identity with a sequence selected from the group consisting of SEQUENCE ID NO 15, 25 SEQUENCE ID NO 16, SEQUENCE ID NO 17, SEQUENCE ID NO 18, and fragments thereof.

~~14. A gene, or a fragment thereof, which codes for a LS147 protein, 30 which comprises an amino acid sequence having at least 50% identity to SEQUENCE ID NO 15.~~

15. A gene, or a fragment thereof, comprising DNA having at least 50% identity with SEQUENCE ID NO 5, SEQUENCE ID NO 6, or SEQUENCE ID NO 7.

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